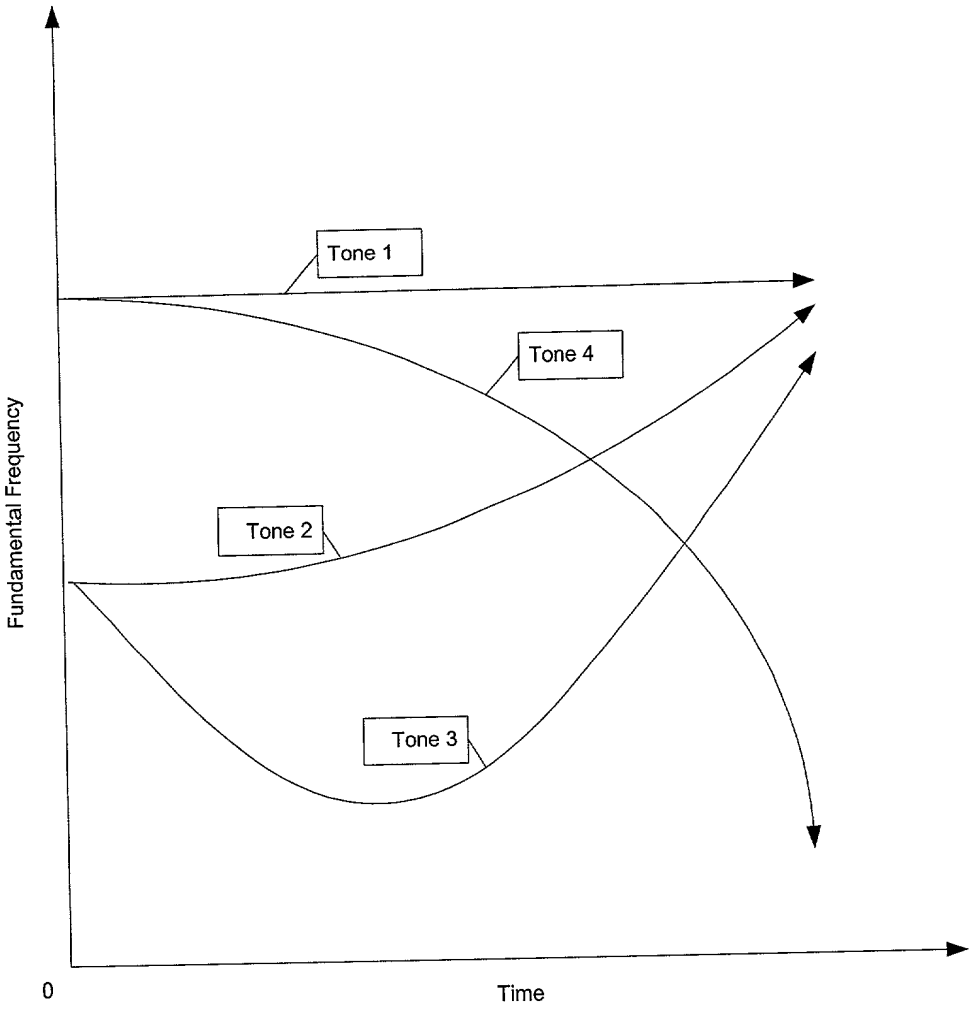

Figure 1

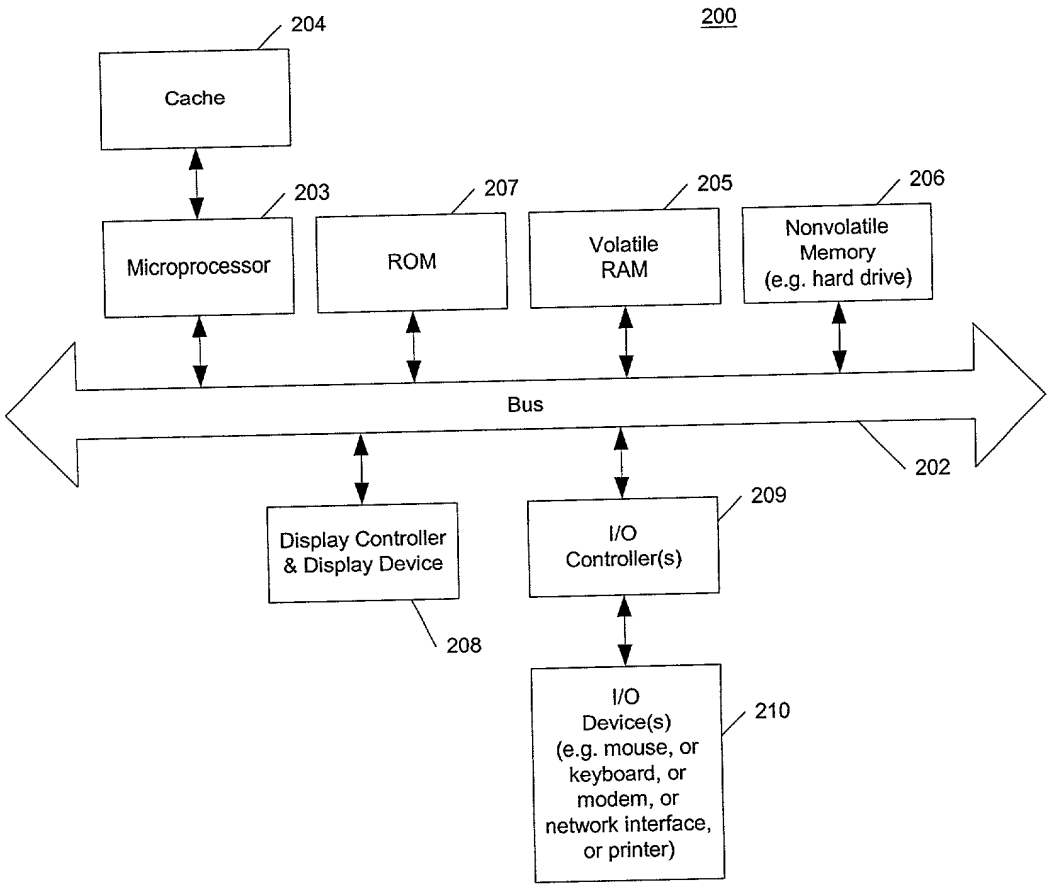
200
204
Cache
203
Microprocessor
207
ROM
205
Volatile
RAM
206
Nonvolatile
Memory
(e.g. hard drive)
Bus
202
Display Controller
& Display Device
208
209
I/O
Controller(s)
I/O
Device(s)
(e.g. mouse, or
keyboard, or
modem, or
network interface,
or printer)
210

Figure 2

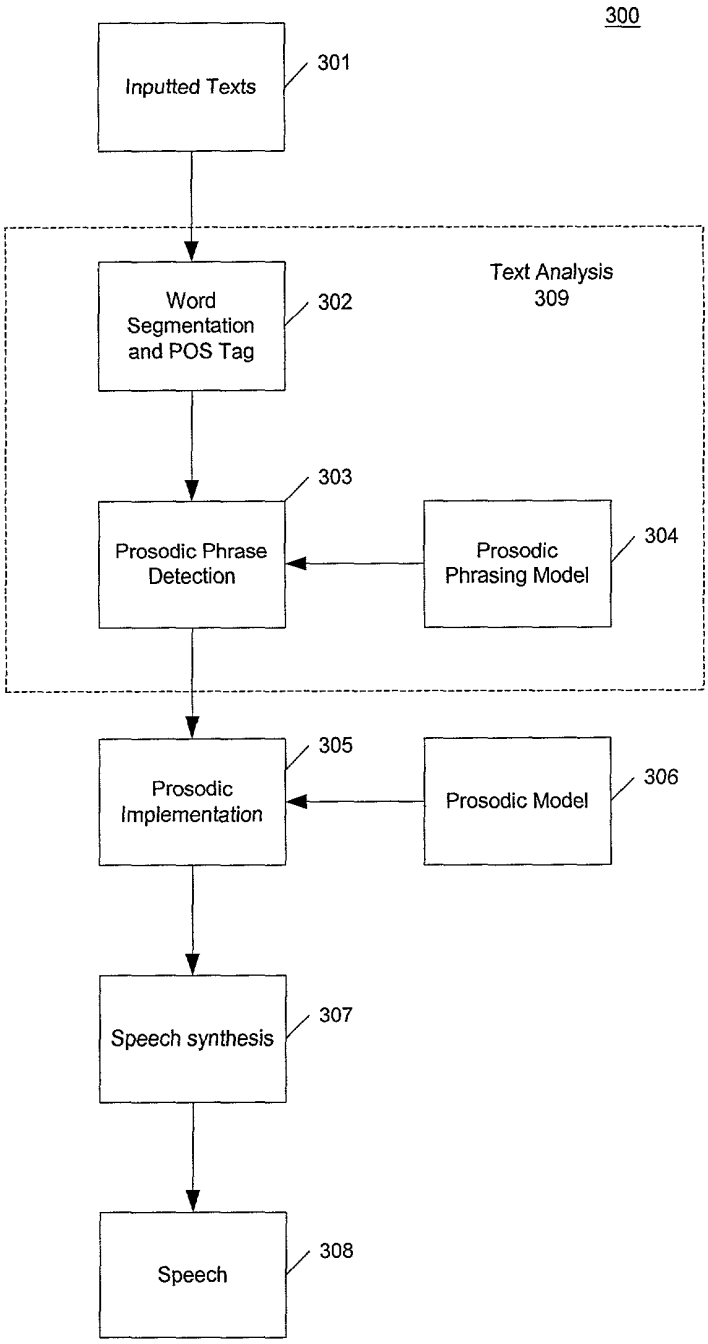
300
Inputted Texts
301
Text Analysis
309
Word Segmentation and POS Tag
302
303
Prosodic Phrase Detection
Prosodic Phrasing Model
304
305
Prosodic Implementation
Prosodic Model
306
Speech synthesis
307
Speech
308

Figure 3

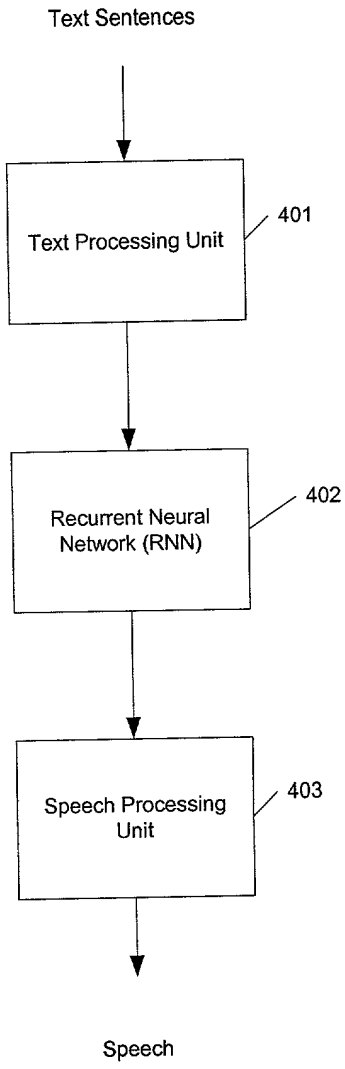
Text Sentences
Text Processing Unit
401
Recurrent Neural Network (RNN)
402
Speech Processing Unit
403
Speech

Figure 4

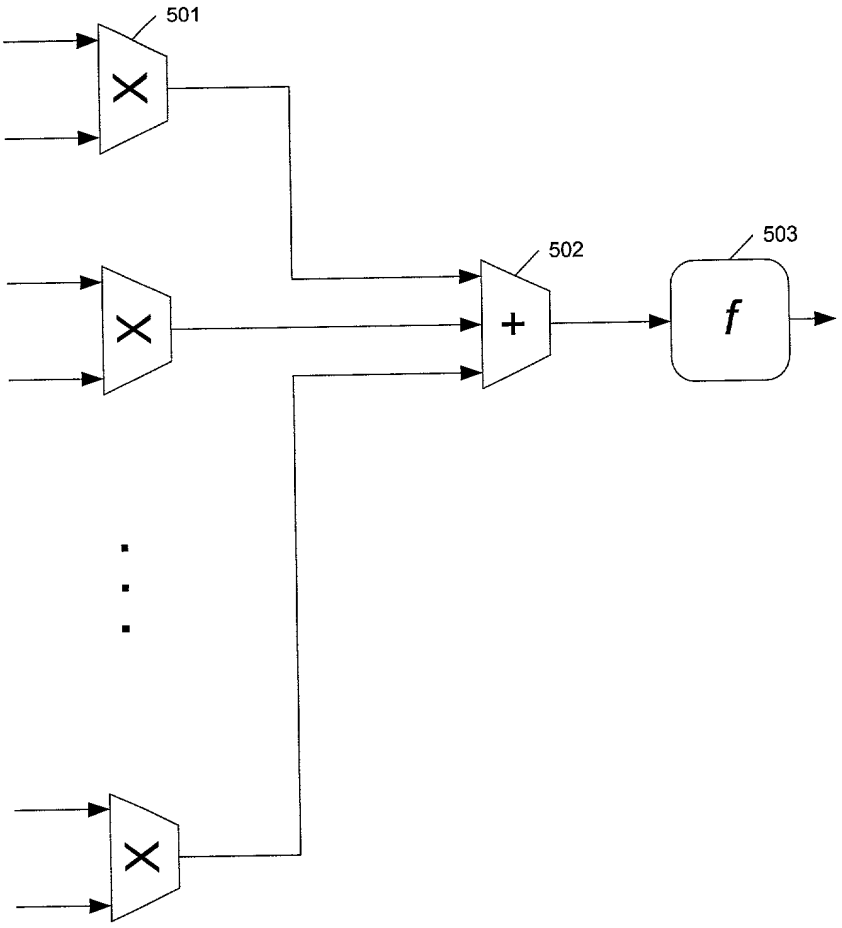

Figure 5A

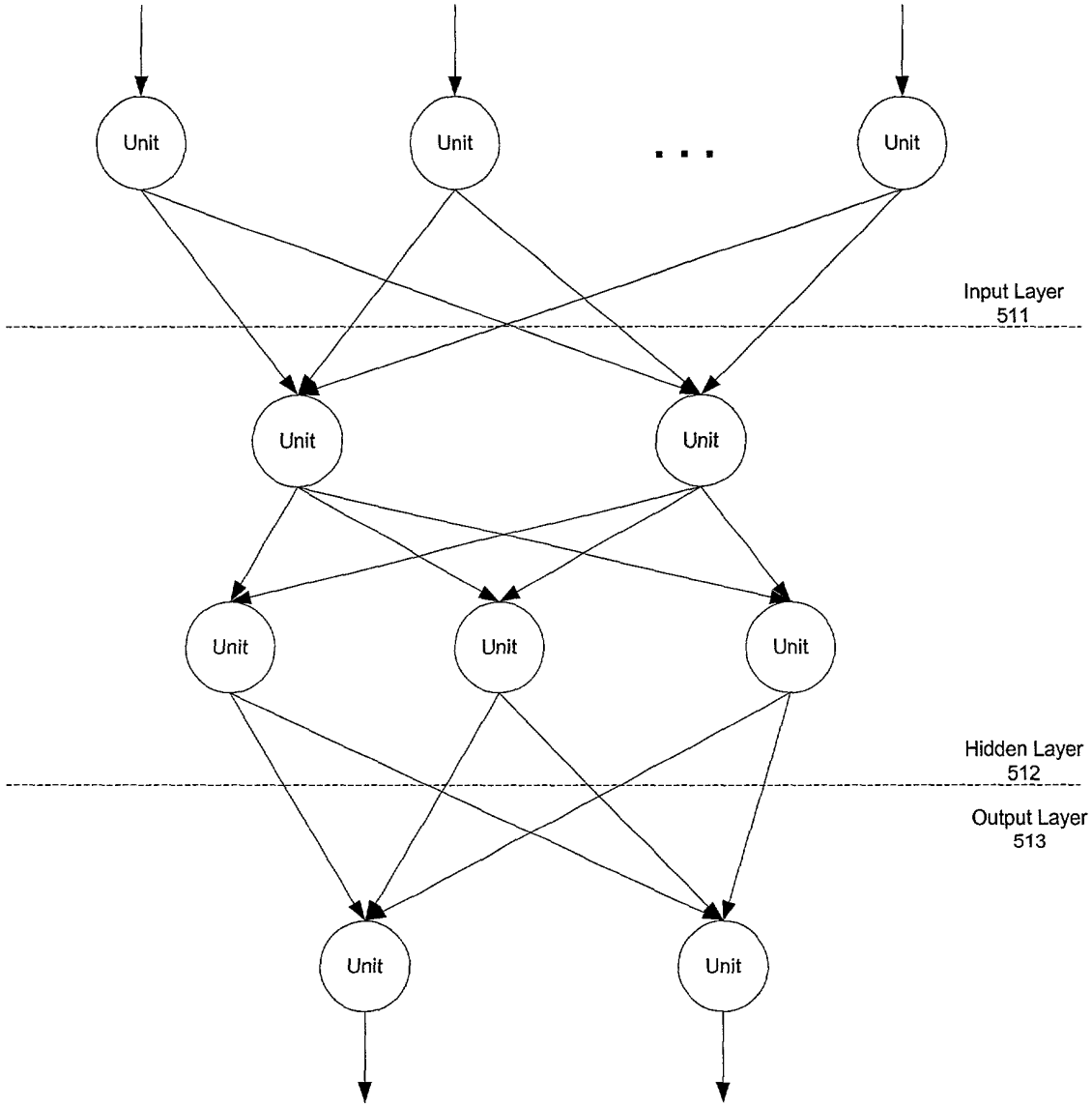
Unit
Unit
Unit
Unit
Unit
Unit
Unit
Unit
Unit
Unit
Input Layer
511
Hidden Layer
512
Output Layer
513

Figure 5B

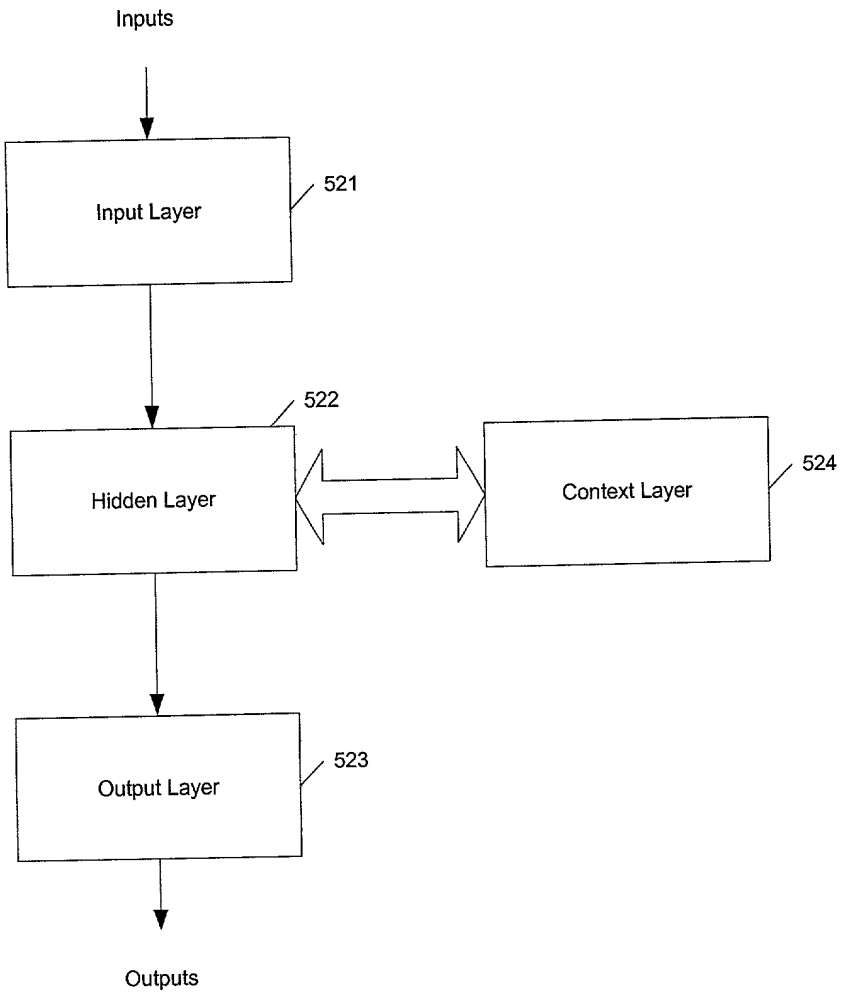
Inputs
Input Layer
521
522
Hidden Layer
Context Layer
524
Output Layer
523
Outputs

Figure 5C

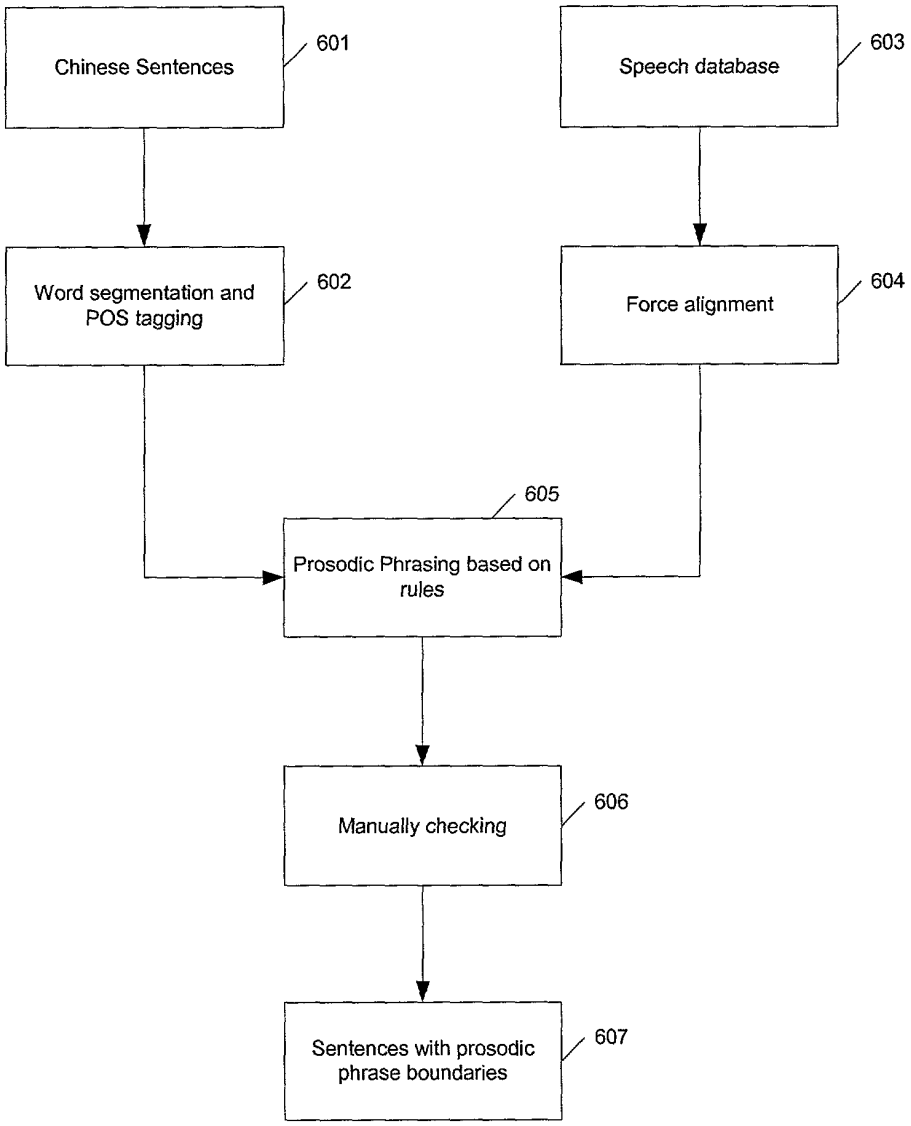
Chinese Sentences
601
Speech database
603
Word segmentation and POS tagging
602
Force alignment
604
605
Prosodic Phrasing based on rules
Manually checking
606
Sentences with prosodic phrase boundaries
607

Figure 6

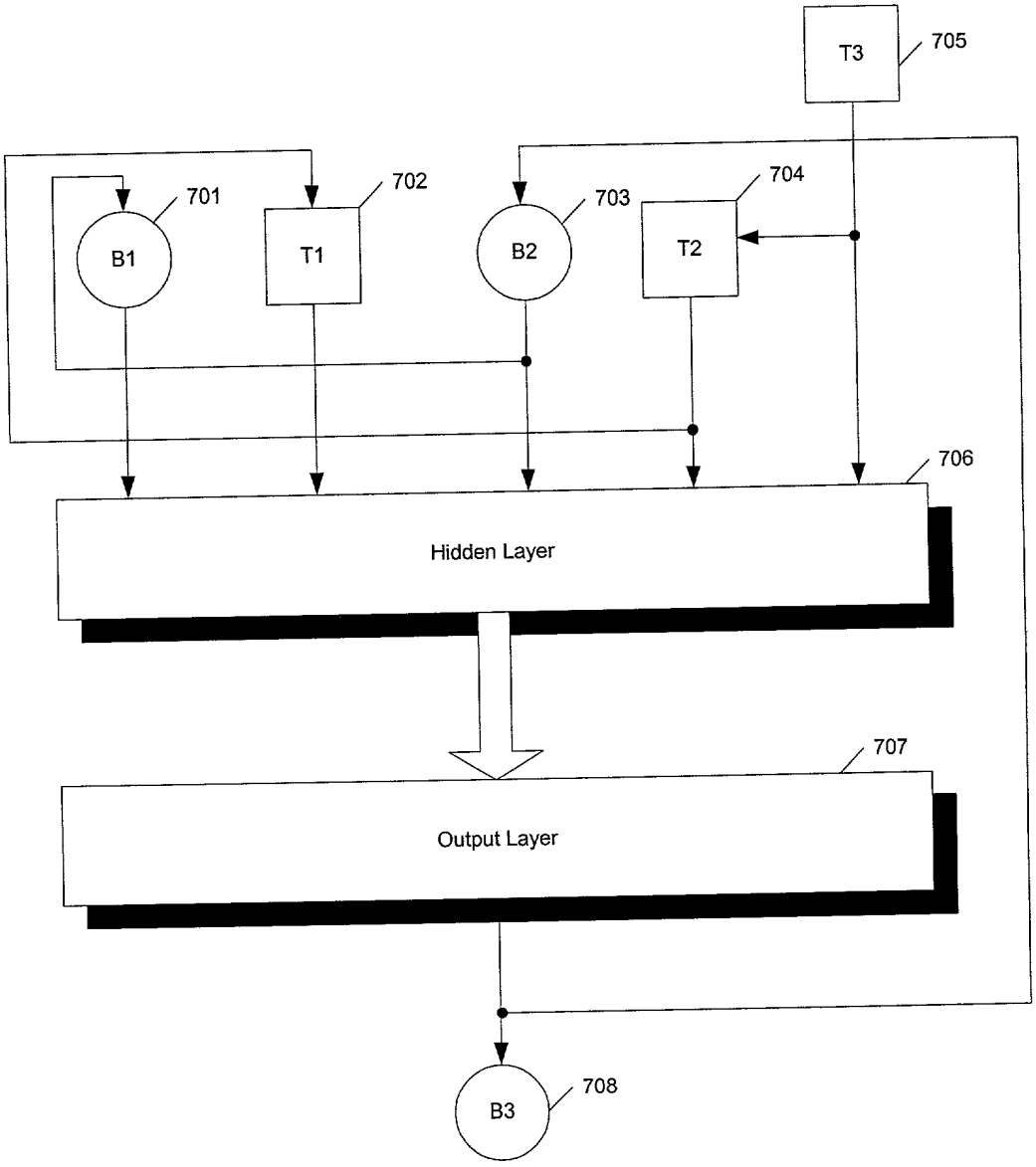
T3
705
701
B1
702
T1
703
B2
704
T2
706
Hidden Layer
707
Output Layer
B3
708

Figure 7

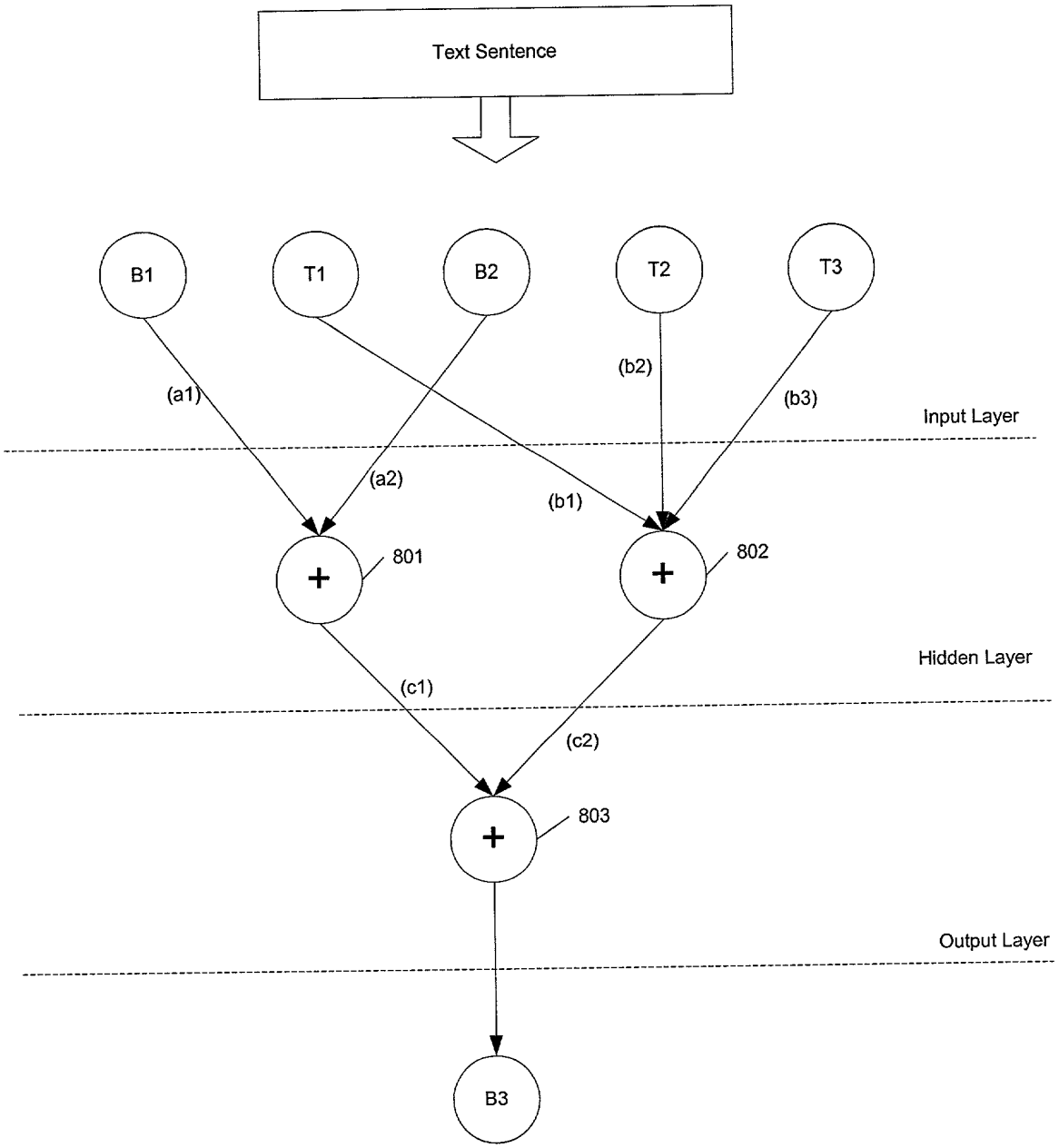
Text Sentence
B1
T1
B2
T2
T3
(a1)
(a2)
(b1)
(b2)
(b3)
Input Layer
801
802
Hidden Layer
(c1)
(c2)
803
Output Layer
B3

Figure 8

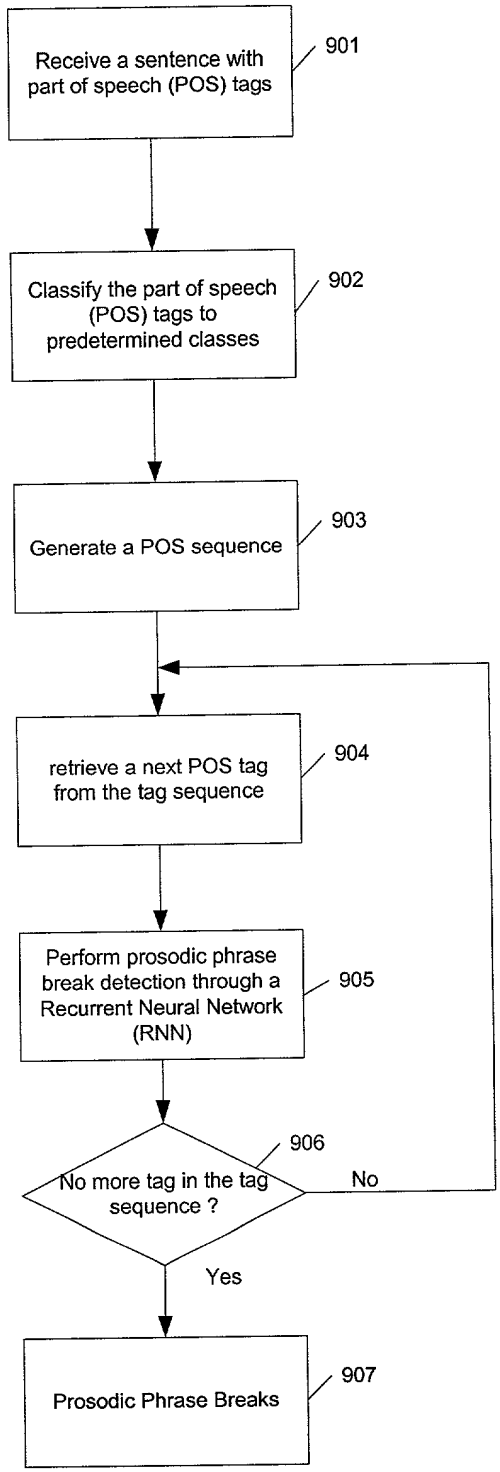
Receive a sentence with part of speech (POS) tags
901
Classify the part of speech (POS) tags to predetermined classes
902
Generate a POS sequence
903
retrieve a next POS tag from the tag sequence
904
Perform prosodic phrase break detection through a Recurrent Neural Network (RNN)
905
No more tag in the tag sequence ?
906
No
Yes
Prosodic Phrase Breaks
907

Figure 9

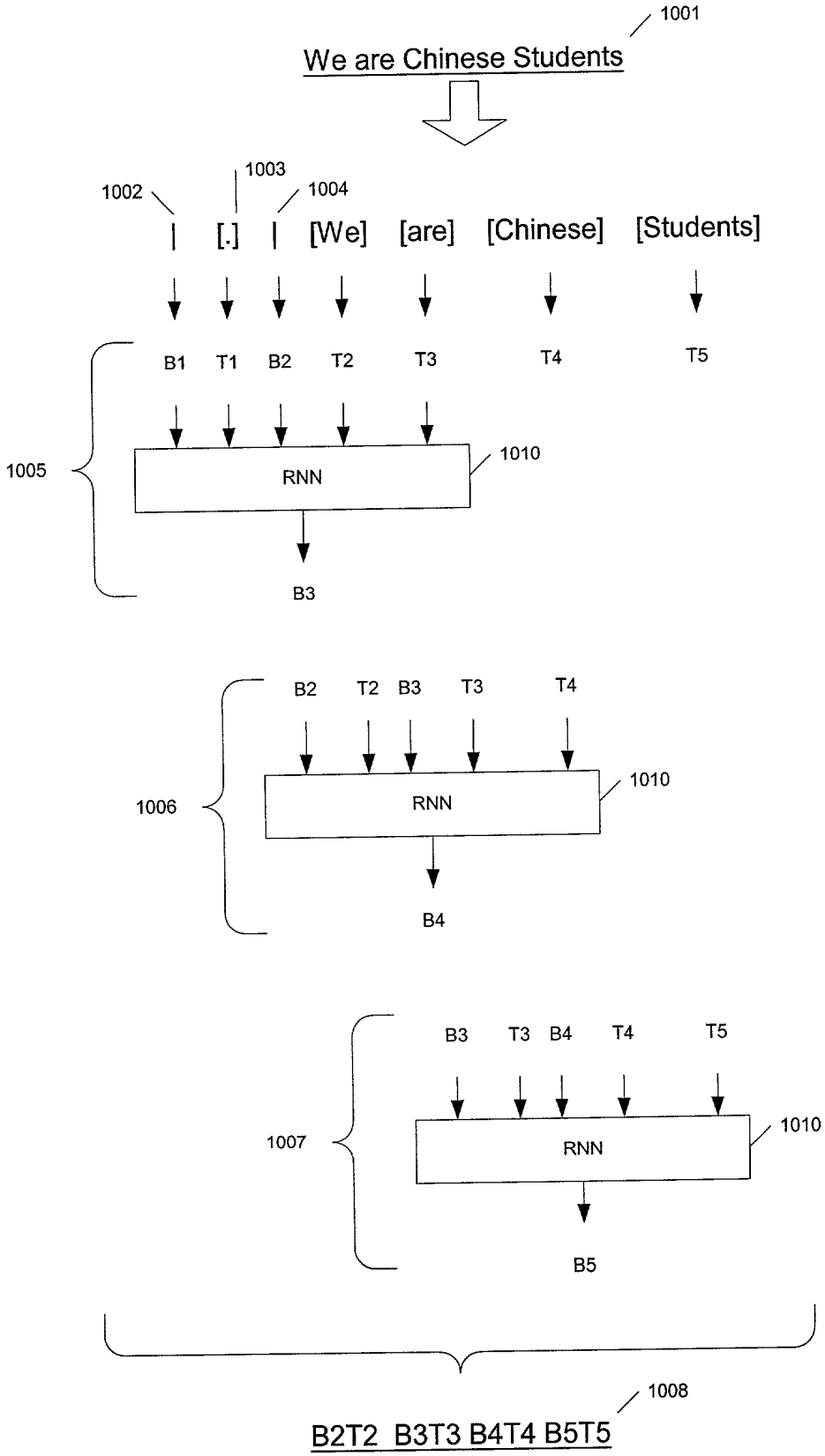
1001
We are Chinese Students
1002
1003
1004
[.]
[We]
[are]
[Chinese]
[Students]
B1
T1
B2
T2
T3
T4
T5
1005
RNN
1010
B3
B2
T2
B3
T3
T4
1006
RNN
1010
B4
B3
T3
B4
T4
T5
1007
RNN
1010
B5
1008
B2T2 B3T3 B4T4 B5T5

Figure 10